



# Transitioning to a net-zero future

1.

We at PSEG share the belief that climate science is clear, that climate change is the pre-eminent challenge of our time and that, as an energy company, we are uniquely positioned to respond to that challenge. PSEG is committed to continuing its leadership role in decarbonizing our economy and the transition to a clean energy future. Our climate strategy helps our stakeholders understand and engage with PSEG so we can build a more informed and actionable future.

The following are key aspects of our comprehensive climate strategy, including the recent announcement of our net-zero vision, along with our long legacy and track record of climate action.

## Governance

Governance is essential to managing risk and capitalizing on opportunities in the rapidly evolving energy sector. Our Board of Directors takes an active role in overseeing sustainability; environmental, social and governance (ESG); and corporate citizenship including our climate strategy, and the associated political, lobbying and trade association spend. The Corporate Governance Committee of the board holds the primary responsibility, as enumerated in its charter, of overseeing sustainability matters for our enterprise and will be responsible for overseeing our transition to a net-zero future. ESG topics are reviewed at every regular meeting of the committee, and separate sessions dedicated to reviewing our sustainability scoring, sustainability report, proxy statement, political contributions and enterprise risk management program each are conducted regularly. The full board is invited to key meetings on ESG updates and the committee's review of ESG matters is rolled up to the full board through our robust enterprise risk management program and cascaded to each committee through risk reviews that are conducted at every regular meeting of the board and each committee. In addition, in 2020, we plan to increase our disclosure

relative to management incentives specifically tied to climate strategy objectives. The board's Organization & Compensation Committee monitors and approves executive compensation goals and results for senior officers, and the independent members of the Board of Directors monitor and approve executive compensation goals and results for the CEO.

## Legislative Imperatives

PSEG has long believed that a national, economy-wide program that sets a price on carbon is the most effective way to achieve meaningful greenhouse gas reductions. In 2007, Ralph Izzo stated, "Climate change challenges us to think and act in new ways regarding how we use and provide energy ... an unmatched opportunity to grow the economy, promote innovation and create new jobs while protecting the planet for future generations." We continue to advocate for a national solution, including through membership in the CEO Climate Dialogue, a cross-sectoral organization that seeks to leverage CEO voices to build support for a national price on carbon and whose guiding principles for federal action include economy-wide greenhouse gas (GHG) emission reductions of 80% or more by 2050.

We also believe that a price on carbon would help preserve the nation's safe, reliable, but economically struggling nuclear power plants. In a world where carbon emissions reduction is valued, these plants' carbon emissions-free generation deserves to be recognized.

## PSEG's Carbon Track Record

In the absence of such comprehensive federal legislation, PSEG has made steady progress in reducing GHG emissions from our operations enterprise-wide, consistently factoring the risks and opportunities presented by climate change into our business decisions

# 2.

and capital allocation. Our carbon emissions rate is already [one of the lowest among the nation's largest power producers](#), but we recognize that our journey is far from complete. Our progress to date has been achieved by maintaining our nuclear units, investing in efficient gas-fired generation units and renewables, and exiting coal-fired generation.

Most recently, we announced our goal to further cut our PSEG Power fleet's carbon emissions by 80% by 2046, from 2005 levels, and our belief that, with the necessary advances in technology, customer behavior and public policy, we can achieve our vision of attaining net-zero carbon emissions from our PSEG Power fleet by 2050.

While we wholeheartedly agree that reductions in carbon emissions from electric generation are an essential part of limiting global warming to 2 degrees Celsius or less, they are only a part of the total picture. We at PSEG are committed to mitigating the physical impacts of climate change and to facilitating the transition to a low-carbon economy, not only through decarbonization of our generation, but also through upgrades to our gas distribution and electric distribution and transmission systems and by helping our customers be more efficient in the way they use energy. We are proud of our strong record on clean energy and our longstanding strategy of addressing climate change through energy efficiency, renewable energy and use of highly efficient natural gas and carbon emissions-free nuclear power.

## Highly Efficient Natural Gas

For decades, reducing GHG emissions has been a focus for PSEG. In 1993, PSEG was the first electric utility to participate in President Clinton's Climate Challenge Program, designed to effectuate the United Nations Framework Convention on Climate Change. We successfully met this goal and stabilized our

carbon dioxide emissions from our New Jersey plants to 1990 levels by 2000. Building on this success, in 2002, PSEG joined EPA's Climate Leaders Program and reduced its GHG emissions intensity by 31% from 2000 levels by 2008. Today, our PSEG Power fleet has reduced its carbon emission intensity by more than 40% since 2005 and is about half the emission intensity compared to the country overall.

In 2017, PSEG retired its last coal plants in New Jersey – the Hudson Generating Station and the Mercer Generating Station. PSEG Power also previously announced the expected retirement of the Bridgeport Harbor Station unit 3 coal plant in 2021. PSEG Power has also closed on the sale of its interest in the Keystone and Conemaugh coal plants in Pennsylvania. Therefore, by mid-2021, PSEG Power expects to have retired or exited through sales more than 2,400 MW of coal-fired generation, representing the complete elimination of coal from PSEG Power's portfolio. And we have no plans to build or acquire new fossil fuel generation.

## Carbon Emissions-Free Nuclear Generation

The Salem and Hope Creek nuclear plants provide more than 90% of New Jersey's carbon-free generation, running 24/7 and providing reliability and resiliency for the grid. PSEG is focused on maintaining the availability of existing nuclear capacity as a means of achieving decarbonization. We continue to believe that national, regional and/or state-specific steps need to be taken to properly value carbon-free nuclear on par with renewable energy resources.

## Renewables

We recognize the urgent need for rapid, reliable and affordable expansion of renewable resources. We actively support New Jersey's efforts to become a national leader in offshore wind and, in October 2019,

# 3.

exercised an option to explore a potential partnership with Ørsted, subject to negotiations toward a joint venture agreement, advanced due diligence and any required regulatory approvals.

We are a leading developer of solar resources, with PSE&G and PSEG Power having invested approximately \$1.7 billion. PSE&G, through its Solar 4 All® and Solar Loan programs, has built or helped finance 260 MW of solar in New Jersey. Solar 4 All focuses on developing grid connected solar farms with an emphasis on landfills and brownfields, so we increase renewable energy without sacrificing green space and the Solar Loan program provides solar financing for PSE&G electric customers. In addition, PSEG Power, through its Solar Source unit, has operations in New Jersey and 13 other states with 414 MW of capacity.

## Energy Efficiency

Last fall, PSEG released its Powering Progress vision for the future. In that paper, PSEG stated that “energy efficiency needs to be the central mission for utilities. Energy efficiency is unmatched in providing environmental and economic value. It delivers clean energy benefits similar to solar and wind, but at a fraction of the cost.” Our suite of Clean Energy Future filings, currently pending before the New Jersey Board of Public Utilities, proposes historic investments in energy efficiency, electric vehicle charging infrastructure, energy storage and advanced metering. Our combined proposals are ambitious and far-reaching in their approach to transforming the energy sector and, if approved, will provide benefits for public health, safety, reliability and resiliency, as well as economic benefits for the state and savings for customers. Our energy efficiency plan has a special emphasis on hard-to-reach customers, such as low-income, multifamily, small business and local governments.

Our current efficiency programs are targeted at underserved customer bases such as small businesses, nonprofits, government facilities, hospitals and multifamily buildings, saving enough electricity annually to power 38,000 homes and enough natural gas to supply 9,000 homes. Participants also benefit from \$242 million a year in energy cost savings.

## Mitigating the Physical Impacts of Climate Change

As we work to universally help our customers use less energy and to ensure that the energy they use is cleaner, we also recognize the importance of continuing to deliver that energy as reliably as possible. As the largest electric and gas distribution utility in New Jersey, PSE&G has experienced the impacts of climate change on its infrastructure and on the customers it serves – particularly given the coastal nature of our region. Changing weather patterns and sea level rise have led to extremes in temperature, more violent storms and increased flooding impacts. All of these factors increase public health and social justice concerns, especially in the low- and moderate-income communities that make up a significant portion of the customers we serve. To better understand and respond to these issues, PSEG was instrumental in the formation of the NJ Climate Adaptation Alliance (re-branded as the NJ Climate Change Alliance), a broad-based stakeholder group focused on evaluating and developing recommendations to prepare New Jersey to better cope with those impacts.

In anticipation of potential future impacts of extreme weather events on our assets, PSE&G designed the Energy Strong program to strengthen our infrastructure. In May 2014, PSE&G received BPU approval to embark on this \$1.22 billion program to proactively protect and strengthen our electric and gas systems against severe weather conditions, hardening the systems against the kind of severe weather damage

inflicted on our infrastructure by Superstorm Sandy and subsequent storms. PSE&G replaced vulnerable gas pipes, upgraded 29 substations and added intelligence to our system to speed restoration when there are outages. In June 2018, building on the success of this initial program, PSE&G filed its Energy Strong II proposal with the BPU to further strengthen the utility's electric and gas systems to withstand storms, improve reliability and significantly enhance resiliency. With approval of the NJ BPU, PSE&G is continuing to increase the reliability and resiliency of its energy distribution systems. Beginning in the fall of 2019, the utility plans to spend \$842 million over four years during the second phase of its Energy Strong program to protect critical energy infrastructure, particularly against severe weather events.

### **Methane Reduction from Natural Gas Distribution System**

Our approach to methane leak detection, repair and replacement is just one of the many ways PSE&G is working to reduce emissions from the most harmful greenhouse gases. Replacement of aging infrastructure for safety and reliability is an ongoing part of the gas business. However, recognizing the climate impacts of methane, in 2015 PSE&G embarked on a program to dramatically accelerate the replacement of underground pipes across our system. As part of this effort, we partnered with the Environmental Defense Fund (EDF) to use the data generated by EDF's research in collaboration with Google and Colorado State University to map methane emissions in cities across the country using Google Street View cars. PSE&G became the first utility in the country to use EDF data in planning its replacement work and the BPU became the first state utility regulator to approve this means of prioritization. Methane mapping results continue to be used to prioritize our pipeline replacements. With the resulting Gas System Modernization Program, PSE&G became a leader in methane-reduction and became a founding partner of EPA's voluntary Methane Challenge Program.

### **Climate Reporting**

Investors, rightly, want to better understand our thinking on these issues and all of the programs and initiatives we have in place to address these challenges. Toward that end, we have implemented enhanced ESG disclosures on our corporate website by providing timely and transparent access to our ESG data reporting.

In addition, we plan to produce a climate report annually, beginning in early 2020. The climate report will follow the TCFD (Task Force on Climate Related Financial Disclosure) framework. Using this common framework increases the transparency in our disclosure, thereby enabling us to engage effectively with the broad array of stakeholders with whom we will need to forge a common vision of a low-carbon future.

### **Our Employees**

It is important to note that PSEG's current workforce will be essential to maintaining the safe, reliable and efficient operations that are a hallmark of our fleet as we transition to cleaner energy sources. Our employees are part of the PSEG legacy and have a tremendous amount to offer as our company evolves to meet the needs of a clean energy future.

In summary, PSEG is committed to continuing to work toward a low-carbon energy future. We understand that there are numerous variables and uncertainties on the path to achieving our long-term climate goals, and we take seriously our obligation to preserve safety and reliability, improve resiliency and ensure a return on our investment for our shareholders at a reasonable cost to customers. But the climate science is undeniable, and action across all sectors of our economy is an imperative none of us can afford to ignore.